



PATENTS  
Docket No. LT-155 CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Michael K. Mayes  
Application No.: 10/695,679 Confirmation No.: 5035  
Filed : October 28, 2003  
For : CIRCUITS AND METHODS FOR A VARIABLE  
OVERSAMPLE RATIO DELTA-SIGMA ANALOG-TO-  
DIGITAL CONVERTER  
Group Art Unit : 2819  
Examiner : Jean Bruner Jeanglaude

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98,  
applicants hereby make the following documents of record in  
the above identified application:\*

U.S. Patents

4,943,807	07/1990	Early et al.
4,972,436	11/1990	Halim et al.
5,144,308	09/1992	Norsworthy
5,187,482	02/1993	Tiemann et al.
5,757,299	05/1998	Noro et al.
6,124,815	09/2000	Lee et al.

\* Applicants reserve the right to challenge the status  
of any of the cited documents as prior art.

6,140,950	10/2000	Oprescu
6,169,506	01/2001	Oprescu et al.
6,208,279	03/2001	Oprescu
6,285,306	09/2001	Zrilic
6,337,645	01/2002	Pflaumer

### Other Documents

M. P. Donadio, "CIC Filter Introduction," downloaded from the Internet at <http://www.dspguru.com/info/tutor/cic.htm>, Jul. 18, 2000.

"Cascaded Integrator-Comb (CIC) Filter v. 1.0," Product Specification, LogiCore, Xilinx, Inc., Mar. 02, 2001.

G. Noriega, "Sigma-Delta A/D Converters - Audio and Medium Bandwidths," Technical Notes - DT3, RMS Instruments, downloaded from the Internet at <http://www.rmsinst.com/dt3.htm>, Feb. 1996.

"An Overview of Data Converters," Application Note AN100, Philips Semiconductors, Dec. 1991.

S. Park, "Principles of Sigma-Delta Modulation for Analog-to-Digital Converters," Communications Applications Manual, APR8, Motorola, DL411D/REV 1, 1993.

E. Dijkstra, et al., "On the Use of Modulo Arithmetic Comb Filters in Sigma Delta Modulators," IEEE Proc. ICASSP, pp. 2001-2004, Apr. 1988.

B. E. Boser, et al., "The Design of Sigma-Delta Modulation Analog-to-Digital Converters," IEEE Journal of Solid State Circuits, vol. 23, pp. 1298-1303, Dec. 1988.

J. C. Candy, "Decimation for Sigma Delta Modulation," IEEE Transactions on Communications, vol. COM-34, pp. 72-76, Jan. 1986.

J. C. Candy, et al., "Oversampling Delta-Sigma Data Converters - Theory, Design, and Simulation," IEEE Press, NY, pp. 1-25, 1992.

"ADC0820: 8-Bit High Speed  $\Sigma\Delta$  Compatible A/D Converter With Track/Hold Function," datasheet, National Semiconductor, Jun. 1999.

"LTC1410: 12-Bit, 1.25 Msps Sampling A/D Converter with Shutdown," datasheet, Linear Technology, 1995.

"ADC0801/ADC0802/ADC0803/ADC0804/ADC0805: 8-Bit  $\mu$ P Compatible A/D Converters, datasheet, National Semiconductor, Nov. 1999.

"AD650: Voltage-to-Frequency and Frequency-to-Voltage Converter," datasheet, Analog Devices, 2000.

"LM231A/LM231/LM331A/LM331: Precision Voltage-to-Frequency Converters," datasheet, National Semiconductor, Jun. 1999.

"ALD500AU/ALD500A/ALD500: Precision Integrating Analog Processor," datasheet, Advanced Linear Devices, Inc., 1999.

"AD1170: High Resolution, Programmable Integrating A/D Converter," datasheet, Rev. A, Analog Devices, Aug. 1999.

"LTC2400: 24-Bit  $\square$ Power No Latency  $\Delta\Sigma^{\text{TM}}$  ADC in SO-8," datasheet, Linear Technology, 1998.


"LTC2410: 24-Bit No Latency  $\Delta\Sigma^{\text{TM}}$  ADC with Differential Input and Differential Reference," datasheet, Linear Technology, 2000.

In accordance with 37 C.F.R. § 1.98 (d), copies of these documents, all of which were made of record in U.S. Patent Application No. 10/104,808, now U.S. Patent No. 6,639,526 from which priority is claimed under 35 U.S.C. § 120, are not submitted herewith.

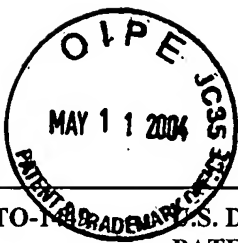
It is respectfully requested that these documents be (1) fully considered by the Patent and Trademark Office during the examination of this application; and (2) printed on any patent that may issue on this application. Applicants request that a copy of Form PTO-1449, as considered and initialed by the Examiner, be returned with the next communication.

An early and favorable action is respectfully  
requested.

Respectfully submitted,

  
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<b>FORM PTO-158</b> <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>	<b>ATTY. DOCKET NO.</b> LT-155 CON	<b>APPLICATION NO.</b> 10/695,679
	<b>APPLICANT</b> Michael K. Mayes	
	<b>FILING DATE</b> October 28, 2003	<b>GROUP</b> 2819

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,943,807	07/1990	Early et al.			
	4,972,436	11/1990	Halim et al.			
	5,144,308	09/1992	Norsworthy			
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	6,337,645	01/2002	Pflaumer			

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

EXAMINER INITIALS	
	M. P. Donadio, "CIC Filter Introduction," downloaded from the Internet at <a href="http://www.dspguru.com/info/tutor/cic.htm">http://www.dspguru.com/info/tutor/cic.htm</a> , Jul. 18, 2000.
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DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. LT-155 CON	APPLICATION NO. 10/695,679
	APPLICANT Michael K. Mayes	
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	E. Dijkstra, et al., "On the Use of Modulo Arithmetic Comb Filters in Sigma Delta Modulators," IEEE Proc. ICASSP, pp. 2001-2004, Apr. 1988.
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